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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,504	12/13/2005	Takamitsu Saito	040302-0532	5658
23428 7590 12/22/2009 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
ARCIERO, ADAM A				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
12/22/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/560,504

**Applicant(s)**

SAITO ET AL.

**Examiner**

ADAM A. ARCIERO

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 14-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on 13 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date 12/13/2005; 08/30/2007  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**METHOD OF MANUFACTURING SECONDARY BATTERY ELECTRODE,  
APPARTUS FOR MANUFACTURING THE SAME AND SECONDARY  
BATTERY ELECTRODE**

Examiner Adam Arciero

S.N. 10/560,504

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December 14, 2009

***Election/Restrictions***

1. Applicant's election without traverse of Group III, claims 14-20, in the reply filed on September 28, 2009 is acknowledged.

***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 12/13/2005 and 08/30/2007 are being considered by the Examiner.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to Claims 18, the recitation of "wherein the secondary battery is connected in series...to form a battery unit" on lines 1-3 of claim 18, is indefinite. The Examiner is unsure as to what the secondary battery is connected to in series or parallel to form a battery unit. For the purposes of compact prosecution, the Examiner construes the claim as reading "wherein the secondary battery is connected in series, in parallel, or in a

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combination of series and parallel to at least one other secondary battery to form a battery unit.”

As to Claim 19, the recitation of “wherein the battery unit is connected in series...to form a combined battery” on lines 1-3 of claim 19, is indefinite. The Examiner is unsure as to what the battery unit is connected to in series or parallel to form a combined battery. For the purposes of compact prosecution, the Examiner construes the claim as reading “wherein the battery unit is connected in series, in parallel, or in a combination of series and parallel to at least one other battery unit to form a combined battery.”

#### *Claim Rejections - 35 USC §103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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7. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over OCHOA et al. (US 6,046,268) in view of MIYAZAKI (JP 09-274909 as found in IDS dated 12/13/2005).

As to Claims 14 and 17, OCHOA et al. discloses a secondary battery electrode comprising a current collector (col. 2, lines 48-65) and wherein the electrode layer is formed on said current collector and includes two kinds (plurality) of active materials (col. 2, lines 48-65). OCHOA et al. does not specifically disclose wherein the electrode layer is structured such that graphics associated with the plurality of kinds of active materials, respectively, are located on discrete areas of the current collector.

However, MIYAZAKI teaches of a nozzle coating device (ink-jet printing) used to apply an electrode layer to a current collector (Abstract). MIYAZAKI further teaches that by using such a method, one can reduce the loss of the active material by coating only a required region of the current collector (discrete areas). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the electrode layer of OCHOA et al. by forming said electrode layers via ink-jet printing, because MIYAZAKI teaches that a current collector can be accurately coated in a pattern at a high speed, the loss of the expensive active material is reduced (Abstract).

As to Claim 15, the electrode layers of OCHOA et al. formed by the method of MIYAZAKI are structured such that the graphics associated with the plurality of kinds of active materials, respectively, are regularly and periodically located on the current collector. MIYAZAKI teaches that the electrode layers formed by an ink-jet method are accurately coated in a pattern at a high speed (regularly and periodically).

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As to Claim 16, OCHOA et al. discloses two different kinds of active materials (col. 2, lines 48-65) and said two kinds of active materials have different electrical characteristics.

8. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over OCHOA et al. (US 6,046,268) in view of MIYAZAKI (JP 09-274909 as found in IDS dated 12/13/2005) as applied to claims 14-17 above, and further in view of WATANABE et al. (US 2003/0091896 A1).

As to Claims 18 and 20, OCHOA et al. and MIYAZAKI does not specifically disclose wherein the secondary battery is connected to at least one other secondary battery in series, in parallel, or in a combination of series and parallel to form a battery unit.

However, WATANABE et al. teaches of a plurality of secondary battery cells connected in series to form a battery unit (pg. 3, [0054]). At the time of the invention, it would have been obvious to one of ordinary skill in the art to form a battery unit with the battery of OCHOA et al. and MIYAZAKI by connecting said battery with at least another battery in series, because WATANABE et al. teaches that a much higher voltage can be obtained and can therefore be used in applications of electric and fuel cell vehicles (pg. 1, [0006]).

As to Claim 19, WATANABE et al. further teaches connecting battery units to other battery units in series or in parallel to form a larger combined battery that is more compact (pg. 4, [0066]-[0067] and Fig. 7a). At the time of the invention, it would have been obvious to one of ordinary skill in the art to form a battery unit with the battery of

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OCHOA et al. and MIYAZAKI by connecting said battery unit with at least another battery unit in series and/or parallel, because WATANABE et al. teaches that a much higher voltage can be obtained and can therefore be used in applications of electric and fuel cell vehicles (pg. 1, [0006]).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM A. ARCIERO whose telephone number is (571)270-5116. The examiner can normally be reached on Monday to Friday 8am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AA

/Dah-Wei D. Yuan/

Supervisory Patent Examiner, Art Unit 1795